

REMARKS/ARGUMENTS

Claims 1-26 are pending in the present application. Claims 1-21 and 24 have been amended by this Amendment. New claim 27 has been added by this Amendment.

Claim Objections

Claim 15 has been objected to by the Examiner because of the wording “and/or” in the claim. Claim 15 has been amended to remove the wording “and/or” from the claim.

Claim 16 has been objected to by the Examiner because of the wording “in particular” in the claim. Claim 16 has been amended to remove the wording “in particular” from the claim.

Claim Rejections under 35 USC § 103

Claims 1-7, 12-21 and 23-26 stand rejected under 35 USC § 103(a) as unpatentable over Zhang (U.S. Pub. No. 2002/0136025). Claims 8-11 and 22 stand rejected under 35 USC § 103(a) as unpatentable over Zhang in view of Kai et al. (U.S. Pub. No. 2002/0158579, hereinafter “Kai”). Applicant respectfully traverses these rejections.

Independent claim 1 has been amended to recite, *inter alia*, “wherein the at least one functional element engages at an edge of the curved, essentially rotationally symmetrical reflector outside of the reflector opening.” Support for amended claim 1 is found at least in paragraph [0051] of Applicant’s published application (US 2007/0189017) and Applicant’s Figs. 1, 2 and 3. The art cited by the Examiner fails to disclose teach or suggest the features of Applicant’s amended claim 1.

Discussion of Disclosed Embodiments

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations which are unclaimed.

Applicant's disclosed embodiments are directed to a lamp (10) comprising at least one base (11) which is joined to a light, and a dome-shaped, in particular dish-shaped, essentially rotationally symmetrical reflector (13), wherein a light source is arranged in the focal point (32) or focal point area thereof in order to produce an oriented, e.g. narrowly emitting, light distribution from said lamp (10). The reflector is provided with an opening (15) which comprises a light exit plane (E) for the lamp (10). The light source is formed by at least one LED (20,20a,20b,20c) and is arranged at a distance from the inner side (14) of the reflector. At least one functional element of the LED, in particular at least one voltage supply line (21a,21b,21c,21d) of the LED and/or at least one cooling body (29,30a,30b,30c,30d) for the LED, extends at least partially essentially along the light exit plane (E) or is arranged at least partially on the side of the light exit plane (E) which is oriented away from the reflector (13).

The functional element engages at an edge of the curved, essentially rotationally symmetrical reflector outside of the reflector opening, i.e., at or above the light exit plane (E). In particular, as shown in Applicant's Figs. 1, 2 and 3, and referring to voltage line 21a as the functional element, voltage line 21a engages at the edge region 22 of the curved or circular cover element 17 and the curved or circular edge region 16 of the reflector 13, e.g., with the mounting ring 31, and in the process merges with a connection lug 23. Connection lug 23 is connected to contact pin 12a via line 24a. This arrangement allows for a design of a lamp which on the one hand results in virtually no shadowing problems and, on the other hand, ensures a safe and stable

electrical connection between the LED and the lamp base and also offers advantages as regards simple installation. Accordingly, Applicant's disclosed embodiments do not have a gap between where the functional element engages and the edge of the cover element 17 and the reflector 13.

Arguments

Zhang discloses in Figs. 1-3 a light source arrangement that comprises a cell body 10, a light source unit 20 and a supporting frame 30. Zhang describes in paragraph [0026] that the cell body 10 has a semi-spherical reflective cavity 13 defined and surrounded by a concave light projecting surface 14, and that the light source unit 20 comprises at least two terminal electrodes 201, 202 and at least a luminary element 21 for emitting light when the terminal electrodes 201, 202 are electrified. Paragraph [0027] of Zhang explains that the supporting frame 30 comprises a supporting bridge 31, which has a thin thickness and a predetermined width functioning as a heat sink, riding across an opening 131 of the reflective cavity 13 of the cell body 10 to support the light source unit 20 at a focus point of the concave light projecting surface 14 for emitting light towards the concave light projecting surface 14. Zhang discloses in Fig. 1 and in paragraph [0028] that the cell body 10 comprises a bowl shaped reflecting member 11 and four supporting walls 12 integrally and perpendicularly connected together to form a box shape structure. Supporting arms 311, 312 of the supporting frame 30 are mounted on the cell body 10 in four top slots formed at four corners of the square cell body 10 in Fig. 1 of Zhang. Alternatively in Zhang, six horizontal supporting arms are mounted at six top slots at corners of the cell body 10 in Fig. 7 of Zhang. Accordingly, the supporting arms of Zhang are engaged at the corners of the polygonal cell body 10 or 10' in Zhang.

Zhang, therefore, fails to disclose, teach or suggest at least one functional element of an LED engages at an edge of a curved, essentially rotationally symmetrical reflector outside of the reflector opening. On the contrary, as previously described, the supporting arms of Zhang are mounted in slots where the supporting walls 12 of the polygonal (e.g. square) cell body 10 meet. As such, it is impossible for the supporting arms to engage at the edge of the bowl shaped reflecting member 11 of Zhang because geometry inherently requires that the corners of the square cell body 12 be spaced apart from the edges of the circular, bowl-shaped reflecting member 11. That is, the corners of a box clearly cannot meet at the edge of a circle.

This can be clearly seen from Figs. 1, 3 and 7 of Zhang which show that the corners where the supporting arms of Zhang are mounted and engage with the cell body 10 are not at the edge of the bowl shaped reflecting member 11. On the contrary, only a portion of the side of the supporting walls 12 is located at the edge of the bowl shaped reflecting member 11 of Zhang. Accordingly, portions of the supporting arms of Zhang extend beyond the edge of the bowl-shaped reflecting member 11 to the corners of the cell body 10 where the supporting walls 12 meet. Thus, Zhang fails to disclose, teach or suggest “the at least one functional element engages at an edge of the curved, essentially rotationally symmetrical reflector outside of the reflector opening”, as explicitly recited by Applicant’s amended claim 1.

Even assuming, *arguendo*, the propriety of the Examiner’s proffered combination of Zhang and Kai (which Applicant does not concede), Kai fails to cure the deficiencies of Zhang discussed above with respect to claim 1. Kai is directed to a discharge lamp where an open end of a reflector 11 is sealed with a glass plate 12. Kai fails to disclose teach or suggest at least one functional element extending essentially along the light exit plane or arranged at least partially on that side of the light exit plane which faces away from the reflector, let alone that the at least

one functional element engages at an edge of the curved, essentially rotationally symmetrical reflector outside of the reflector opening. Moreover, Kai requires multiple elements at or around the apex of the reflector 11 which decrease the intensity of the light source in Kia and, thus, one skilled in the art would not look to use these elements of Kai in the light arrangement of Zhang. Accordingly, claim 1 is deemed to be patentably distinct over the cited art for at least the foregoing reasons. Claims 2-26, which depend from claim 1, are deemed to be patentably distinct over the cited art for at least the same reasons discussed above with respect to claim 1, as well as on their own merits.

New Claim

New claim 27 depends from independent claim 1 and, thus, is deemed to be patentably distinct over the cited art for at least the same reasons discussed above with respect to independent claim 1. Support for new claim 27 is found at least at paragraph [0051] of Applicant's published application and Applicant's Figs. 1, 2 and 3.

CONCLUSION

This application is now believed to be in condition for allowance, and early notice to that effect is solicited.

Please charge our Patent and Trademark Office Deposit Account No. 03-2412 in the amount of \$52.00 in payment for the addition of one (1) new dependent claim in excess of 20.

It is believed that no additional fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
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